

Amendments to the Specification:

Please add the following new paragraph after the paragraph ending at page 1, after the title:

--CROSS REFERENCE TO RELATED APPLICATION

This application is the National Stage of International Application No. PCT/AU2004/001261, filed on September 16, 2004, which claims priority to Australian Patent Application Serial No. 200305187, filed on September 23, 2003. The contents of these applications are hereby incorporated by reference in their entireties.--

Please add the following new paragraphs after the paragraph ending at page 10, line 33:

--Figure 5A is a bright field image of a specimen comprising smooth muscle cells, collected with the apparatus of Figure 1;

Figure 5B is phase map derived from the image of Figure 5A with the apparatus of Figure 1;

Figure 5C is a phase image of the sample of Figure 5A, optically derived according to the background art;

Figure 6A is a pixel intensity histogram of the phase map of Figure 5B, analyzed according to the embodiment of Figure 1;

Figure 6B is a plot of the derivative of the intensity histogram of Figure 6A;

Figure 6C is a plot derived from the phase map of Figure 5B of the threshold of grey level at which segmentation of cellular from non-cellular material, obtained with the apparatus of Figure 1;

Figure 6D is a binary image derived from Figure 6C of the demarcation of cellular material from non-cellular material, obtained with the apparatus of Figure 1;

Figure 7A is a plot of the derivative of an intensity histogram based on Figure 5C, comparable to Figure 6B;

Figure 7B is a binary image for the optical phase image of Figure 5C, comparable to Figure 6D;

Figure 8A is a plot of growth response of an HASM cell culture, determined with the apparatus of Figure 1; and

Figure 8B is a plot of the correlation between the quantitative phase calculated culture confluency and cell number derived from the data of Figure 8A.--